What is claimed is:

1. A method of screening for biological sensors that bind to a selected analyte comprising:

a) preparing one or more candidate biological sensors;

b) inserting each candidate biological sensor into an expression vector comprising a target gene, wherein the insertion site is located near the 5' end of the transcribed portion of the target gene;

c) transforming the expression vectors containing inserts into an appropriate host cell line;

d) exposing the transformed host cells to the selected analyte; and

e) identifying host cell colonies that do not express the target gene protein.

2. The method of claim 1, wherein the target gene encodes a selectable marker protein or a screenable marker protein.

3. The method of claim 2, wherein the screenable marker protein is β-glucuronidase (GUS), chloramphenicol acetyltransferase (CAT), luciferase or green fluorescent protein (GFP).

4. The method of claim 2, wherein the target gene is thymidine kinase, hypoxanthine-guanine phosphoribosyltransferase, adenine phosphoribosyltransferase, dihydrofolate reductase, gpt, neo, hygro or bar.

5. The method of claim 1, wherein the target gene is a regulatory gene, and wherein the regulatory gene controls the expression of a marker gene.

6. The method of claim 5, wherein the regulatory gene is the lac repressor gene.

7. The method of claim 1, wherein the host cell is a prokaryotic cell, a eukaryotic cell, or a plant cell.

8. The method of claim 7, wherein the host cell is *E. coli.*

9. The method of claim 7, wherein the prokaryotic cell or the plant cell does not have an intact cell wall.

10. The method of claim 1, wherein the host cell line is capable of manufacturing DALM.

11. The method of claim 1, further comprising growing up the identified host colonies and repeating steps (d) and (e) until a colony is obtained that contains a biological sensor that binds with high affinity to the analyte.

12. A biological sensor produced by the method of claim 1.

13. The biological sensor of claim 12, wherein the biological sensor is covalently attached to a therapeutic moiety.

14. The biological sensor of claim 13, wherein the therapeutic moiety is a cytokine, a chemotherapeutic agent, a radioisotope, a cytotoxic agent, an enzyme, a protein, an inhibitor or a poison.

15. The biological sensor of claim 12, wherein the biological sensor is synthesized, modified, selected or ligated to another biological sensor to provide a multifunctional biological sensor.

16. The biological sensor of claim 15, wherein the multiple functions are selected from the group consisting of binding to a first analyte, binding to a second analyte, catalytic activity, chemical reactivity, photoreactivity, facilitating uptake into a cell, localization into a subcellular compartment, inhibition of enzyme activity and activation of enzyme activity.

17. A method of screening for products of biological reactions comprising:

a) preparing one or more recognition complexes containing biological sensors that bind with high affinity to the product of a biological reaction;

b) exposing the one or more recognition complexes to a sample; and

c) detecting binding of the one or more recognition complexes to the product.

18. The method of claim 17, wherein the method is used for high through-put screening,

medium through-put screening or low through-put screening.

19. The method of claim 17, wherein the product is a cell surface protein.

20. The method of claim 17, wherein the product is a product of an enzymatic reaction.

21. The method of claim 20, further comprising detecting the presence of an inhibitor of the enzymatic reaction by the absence of binding to the product.

22. The biological sensor of claim 12, wherein the biological sensor comprises one or more specified nucleic acid sequences.